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CLAIMS:

1.   A playback apparatus (500) in a reproducing system which includes a plurality of play modes, comprising:

5   a cache memory (335) configured to store data to be read from a data source (1);

a cache replacement unit (341) configured to identify certain of said stored data to be deleted from the cache memory (335) based on a determination of said stored data's present and/or future use in at least two play modes from among said plurality of

10   play modes; and

a presentation unit (337) configured to retrieve data from the cache memory (335) to be presented to a user.

2.   The apparatus of Claim 1, further comprising a disc control unit (343)

15   configured to identify and retrieve said data to be read from said data source (1), wherein said identification excludes consideration of currently stored data in the cache memory (335).

3.   The apparatus of Claim 2, wherein said identified and retrieved data is

20   data suitable for present and/or future use in at least two of said plurality of play modes.

4.   The apparatus of Claim 3, wherein said data identification is performed via a dynamic prioritization control mechanism that identifies at least two candidate data blocks not currently present in said cache memory (335), assigns a desirability figure to

25   the at least two identified candidate data blocks; and selects one of the at least two candidate data blocks having the highest assigned desirability figure.

5.   The apparatus of Claim 4, wherein the assigned desirability figure is based on criteria including at least a relative importance metric of the at least two play modes

30   that the at least two candidate data blocks may be used in and a distance between the at least two candidate data blocks to a current playback position.

6.   The apparatus of Claim 1, further comprising a disc control unit (343) configured to predictively select data stored on the data source (1) based on a heuristic algorithm, said predictively selected data excluding data presently stored in said cache

5   memory (335).

7.   The apparatus of Claim 6, wherein the heuristic algorithm selects said data from the data source (1) by predicting the likelihood that said data will be requested from the cache memory (335) at a future time, assigning a prediction score based on said

10   prediction, and selecting said data from the data source (1) having the highest prediction scores.

8.   The apparatus of Claim 7, wherein the heuristic algorithm considers criteria including at least a knowledge of the current play mode, a current playback

15   position, a knowledge of data access patterns in each of said plurality of modes, a probability that a current mode will be maintained and a probability that a mode different than the current play mode will be selected.

· 9.   A playback apparatus (500) in a reproducing system which includes a

20   plurality of play modes, comprising:

a cache memory (335) configured to store data read from a data source (1), said data being comprised of a plurality of data blocks;

a disc control unit (343) configured to identify certain of said plurality of data blocks to be read from the data source (1), said identification based on the current

25   contents of the cache memory (335).

a cache replacement unit (341) configured to identify certain of said data blocks to be deleted from the cache memory (335); and

a presentation unit (337) configured to obtain data from the cache memory (335) to be displayed.

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10.   The apparatus of Claim 9, wherein said certain of said plurality of data

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blocks to be read from the data source (1) under control of the disc control unit (343) are
candidate data blocks applicable for use in at least two of said plurality of data modes.

11.   The apparatus of Claim 10, wherein said identification of said candidate
5   data blocks is performed via a dynamic prioritization control mechanism.

12.   The apparatus of Claim 11, wherein said dynamic prioritization control
mechanism is configured to identify at least two candidate data blocks not currently
present in said cache memory (335), assign a desirability figure to the at least two
10   candidate data blocks; and select a candidate data block from among the at least two
candidate data blocks having the highest assigned desirability figure.

13.   The apparatus of Claim 12, wherein the assigned desirability figure is
based on criteria including at least a relative importance of the at least two play modes
15   that the at least two candidate data blocks may be used in and a distance between the at
least two candidate data blocks to a current playback position.

14.   A playback apparatus (500) in a reproducing system which includes a
plurality of play modes, the apparatus comprising:
20   an access prediction unit (339), configured to predictively select data
blocks to be read from a data source (1), wherein said selected data is usable in at least
two play modes from among said plurality of play modes;
             a disc control unit (343) configured to read said predictively selected data
blocks from said data source;
25   a cache (335) configured to store the predictively selected data blocks read
from the data source (1); and
             a presentation unit (337) configured to request data blocks from the cache
(335) to be presented to a user.

30   15.   The apparatus of Claim 14, wherein said access prediction unit (339)
predictively selects fragments in accordance with a heuristic algorithm.

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16.   The apparatus of Claim 15, wherein said heuristic algorithm predicts the likelihood that data blocks to be read from the data source (1) will be retrieved from the cache memory (335) in the future and selecting the data blocks having the highest

5   likelihood to be retrieved.

17.   The apparatus of Claim 16, further comprising a cache replacement unit configured to identify certain of said data blocks to be deleted from the cache memory.

10   18.   A method for improving trick mode performance in a playback apparatus in a reproducing system which includes a plurality of play modes, the method comprising the acts of:

reading data from a data source (1);

storing said data in a cache memory (335);

15   identifying certain of said stored data to be deleted from the cache memory (335) based on a determination of said stored data's present and/or future use in at least two play modes from among said plurality of play modes; and

retrieving data from the cache memory (335) to be displayed.

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19.   The method of Claim 18, further comprising the acts of:

identifying said data read from said data source (1) , wherein said data excludes consideration of currently stored in the cache memory (335);

retrieving said identified data from said data source (1); and

25   storing said retrieved data in said cache memory (335).

20.   The method of Claim 19, wherein said identification act is based on said data's present and/or future use in at least two of said plurality of play modes.

30   21.   The method of Claim 20, wherein said data identification is performed via a dynamic prioritization control mechanism comprising the acts of:

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identifying at least two candidate data blocks not currently present in said cache memory (335);

assigning a desirability figure to the at least two identified candidate data blocks; and

5   selecting one of the at least two candidate data blocks having the highest assigned desirability figure.

22.   The method of Claim 20, wherein the assigned desirability figure is based on criteria including at least a relative importance metric of the at least two play modes

10   that the at least two candidate data blocks may be used in and a distance between the at least two candidate data blocks to a current playback position.

23.   The method of Claim 18, further comprising the act of predictively selecting said data stored on the data source (1) based on a heuristic algorithm, wherein

15   said predictively selected data excludes data presently stored in said cache memory (335).

24.   The method of Claim 23, wherein the heuristic algorithm predictively selects said data from the data source (1) in accordance with the following acts:

predicting the likelihood that said data will be requested from the cache

20   memory (335) at a future time;

assigning a prediction score based on said prediction; and

selecting said data from the data source (1) having the highest prediction

scores.

25   25.   The method of Claim 24, wherein the heuristic algorithm considers criteria including at least a knowledge of the current play mode, a current fragment position, a knowledge of fragment access patterns in each of said plurality of modes, a probability that a current mode will be maintained and a probability that a mode different than the current play mode will be selected.